4. (Once amended) A crystal growth method according to claim 1, wherein the compound semiconductors A and B are alternatively grown by MOCVD on a substrate with the thickness of the layers varying from one to another to form a multi-layered buffer.

12. (Once amended) A group-III nitride compound semiconductor, comprising:

a MOCVD-grown periodic or non-periodic multi-layered buffer having at least three layers with each layer having a thickness in the range from 2 nm to 6 nm on a substrate grown at a first temperature in which the layers alternate between at least two types of compound semiconductors A and B different from each other in lattice constant, energy band gap, layer thickness, and composition; and

a MOCVD-grown layer of a group-III nitride compound semiconductor on the formed multi-layered buffer wherein said layer of group-III is formed at a temperature that is higher than said first temperature.

13. (New) A method as recited in claim 1 wherein a total buffer thickness is less than 96 nm.

14. (New) A method as recited in claim 1 wherein a total buffer thickness is less than 48 nm.